

EXAMPLE

Population = 2,500 Calculate the Maximum Hourly Flow for the Distribution System

$$(2500) \text{ people} (165) \frac{\text{gal}}{\text{day person}} = 412,500 \frac{\text{gal}}{\text{day}}$$

$$(412,500) \frac{\text{gal}}{\text{day}} \frac{1}{(24) \text{ hr}} = 17,187.5 \frac{\text{gal}}{\text{hr}}$$

$$(17,187.5) \frac{\text{gal}}{\text{hr}} (1.30)(3.00) = 67,031.2 \frac{\text{gal}}{\text{hr}} \text{ MAX HRLY}$$

$\swarrow$  Summer Mult.     $\searrow$  MAX HRLY MULT

FIRE

$$Q = 1020 \sqrt{P} (1 - 0.01 \sqrt{P}) = (1020) \sqrt{2.5} (1 - 0.01 \sqrt{2.5})$$

$$= 1587 \text{ gpm}$$

$$(1587) \text{ gpm} (60) \frac{\text{min}}{\text{hr}} = 95,235.7 \frac{\text{gal}}{\text{hr}} \text{ FIRE}$$

GROWTH (TAKE TOTAL + 50% of TOTAL)

$$\begin{array}{r} 67,031.2 \\ 95,235.7 \\ \hline 162,266.9 \end{array} + 81,133.5 = \boxed{243,400} \frac{\text{gal}}{\text{hr}}$$

Design Flow For Distribution System  $\uparrow$

Potable Water 2